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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,428	05/30/2001	Thomas Alan Slopsema	GP-301083	7065

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EXAMINER

SMITH, REBECCA A

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 05/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,428

Applicant(s)

SLOPSEMA ET AL.

Examiner

Rebecca A Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

- Page 2, line 3 – Change “*know*” to “*known*”.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,5, 10-11, 15, and 21 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,167,343 to Bauerle *or* U.S. Patent 5,720,258 to Tolkacz et al in view of U.S. Patent No. 6,283,079 B1 to Cumming et al.

Bauerle and Tolkacz et al disclose an engine control system in a spark ignition internal combustion with an intake manifold configured to conduct an intake charge of air to an intake port of the internal combustion engine; a pivoting throttle configured to alter the intakes charge of air to the intake port of the internal combustion engine; and a controller that additionally adjusts fuel injection and ignition spark. Bauerle *or* Tolkacz et al do not disclose the method that the throttle substantially terminates the intake charge of air during the shutdown. However, Cumming et al teaches, a known solution for preventing vibrations during shutdown (the vehicle ignition key off signal is

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introduced to a control means) is the addition of a throttle plate in the engine air intake system and this throttle plate is closed terminating of the intake charge when the engine is shutdown (Col 2, lines 8-13).

It would have been obvious for Bauerle or Tolkacz et al to include the ignition key-off signal as taught by Cumming et al to close the throttle plate for shutdown in their engine control system at the time the invention was made to more accurately and compactly address the inter-reaction performance requirements of the ignition status and throttle closing as compared to a mechanical interface.

4. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauerle or Tolkacz et al in view of Cumming et al and further in view of U.S. Patent No. 4,574,752 to Reichert, Jr. et al.

Bauerle or Tolkacz et al in view of Cumming et al disclose a controller to control the throttle but fail to disclose the termination of the intake charge of air for a predetermined period of time after shutdown of the internal combustion engine. However, Reichert, Jr. et al. discloses an internal combustion engine shutdown system which terminates the intake charge of air for a predetermined period of time after shutdown of the internal combustion engine (Abstract). It would have been obvious for Bauerle or Tolkacz et al in view of Cumming et al at the time the invention was made to terminate the intake charge for a limited time so as not to make the driver uncomfortable at waiting for completion of shutdown and still achieve a smooth transition.

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5. Claims 3- 4, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauerle *or* Tolkacz et al in view of Cumming et al and further in view of U.S. Patent 5,730,098 to Sasaki et al.

Bauerle *or* Tolkacz et al in view of Cumming et al. disclose an engine control system and method for shutdown of an internal combustion engine but fail to disclose the controller terminates engine spark and halts fuel injection during shutdown of the internal combustion engine. However, Sasaki et al disclose an engine shutdown apparatus and method that when the engine stop switch is turned, in the fuel cut-off/ignition stop circuit, an engine stop instruction signal is sent to the fuel cut-off drive circuit and after a specific time lag the engine stop circuit sends a signal to the ignition circuit to stop (Abstract). It would have been obvious for Bauerle *or* Tolkacz et al in view of Cumming et al at the time the invention was made to incorporate the termination of engine spark and halt fuel injection to accurately time the shutdown process smoothly and securely without causing running-on or after-burning as taught by Sasaki et al (Abstract).

6. Claims 6-9, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauerle *or* Tolkacz et al in view of Cumming et al. and further in view of Reichert, Jr. et al.

Bauerle *or* Tolkacz et al in view of Cumming et al. and further in view of Reichert, Jr. et al disclose adjusting intake charge air flow rate and limiting the time period, but Bauerle and Tolkacz et al in view of Cumming et al and further in view of Reichert, Jr. et al fail to disclose adjusting intake charge air flow rate to less than twice

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the idle speed flow rate; less than idle speed flow rate; less than thirty percent of idle speed flow rate; less than about ten percent of idle speed flow rate, or having a predetermined period of less than 20 seconds. It would have been obvious for Bauerle *or* *Tolkacz et al* in view of Cumming et al to optimize the flow rate and the predetermined period of time at the time the invention was made, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca A. Smith whose telephone number is 703-306-3409. The examiner can normally be reached from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached on 703-308-2696. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-9302 for regular communications and 703-308-9302 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.


ras

May 1, 2002


Willis R. Wolfe
Primary Examiner
Art Unit 3747